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(54) COMMON ACCESS BETWEEN A MOBILE COMMUNICATIONS NETWORK AND AN EXTERNAL NETWORK WITH SELECTABLE PACKET-SWITCHED AND CIRCUIT-SWITCHED SERVICES

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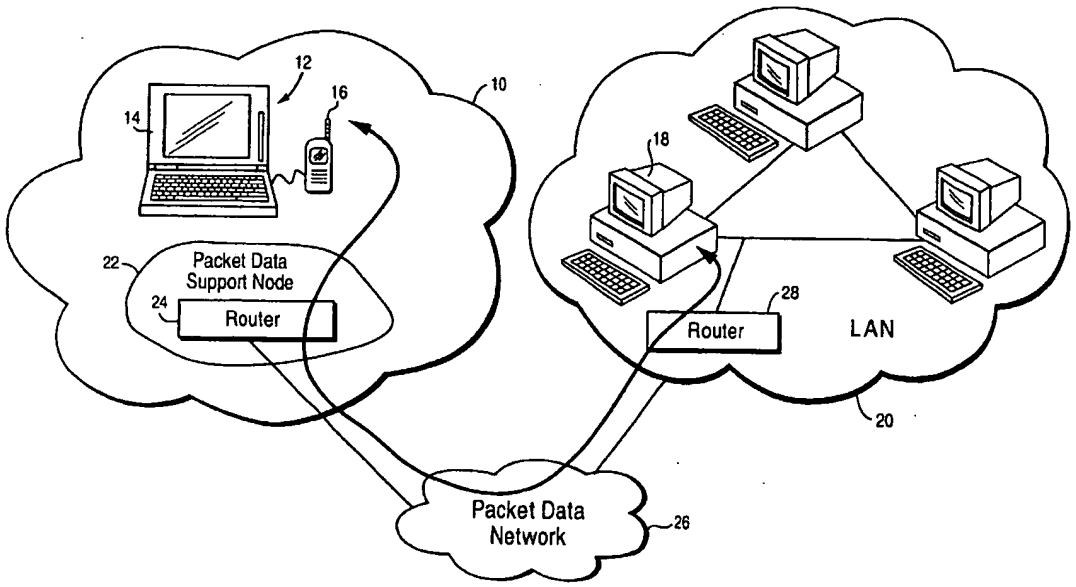
(57) ABSTRACT

Applications running on a mobile station or an external network entity such as an Internet service provider may specify on an individual application flow basis a requested quality of service. From that requested quality of service, an optimal type of bearer to transfer the application flow through the mobile communications network is determined. For example, a circuit-switched bearer may be allocated if the request is for a real-time service, and a packet-switched bearer may be allocated if the request is for a non-real time type of service. Various other decision making criteria may be employed. A mobile station and a mobile network gateway node each include a mapper for mapping an individual application flow to one of a circuit-switched network and a packet-switched network bearer depending on the quality of service requested for the individual application flow. The network layer quality of service parameters corresponding to an individual application flow are mapped to circuit-switched bearer parameters if the application flow is mapped to the circuit-switched network and to packet-switched bearer parameters if the application flow is mapped to the packet-switched network. The gateway node includes a common access server which permits a mobile station initially establishing a communications session with an external network entity to perform only a single, common access procedure for subsequent communications using one of the circuit-switched and packet-switched networks. After that common access procedure is completed, subsequent application flows between the mobile station and the external network entity are established using abbreviated procedures without having to access the external network entity.



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TITLE: COMMON ACCESS BETWEEN A MOBILE COMMUNICATIONS NETWORK
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Detail Description Paragraph - DETX (5):
[0051] After PDP context activation, a network layer, e.g., IP, host configuration operation is performed to establish a network layer (IP) bearer communication between the mobile host and an external network entity like an ISP. The IP configuration includes assigning a network layer (IP) address to the mobile station, setting default values for worldwide web (WWW) server, domain name server (DNS), an address resolution protocol (ARP) cache, etc. When an IP bearer between the mobile host and the GGSN established in the PDP context activation is extended from the GGSN to the ISP, data packets may then be routed back and forth between the mobile station and end systems at the ISP.

Detail Description Paragraph - DETX (58):
[0104] The DHCP Acknowledge message is relayed to the mobile host which is configured with a set of selected DHCP parameters including IP address, DNS server name, etc. The common access server in the GGSN also stores these configuration parameters like the IP address allocated to the mobile station